hydroxide. The unoxidized white Kraft liquor was a synthetic white liquor with the following strength:

Total Titratable Alkali (TTA) 108.5 Grams per liter as Na_2O

Active Alkali (AA) 106.9 Grams per liter as Na_2O

Effective Alkali (EA) 91.5 Grams per liter as Na_2O

Sulfidity 24.8 percent TTA and 28.8 percent AA

Specific gravity of the white liquor was 1.125

The resulting pulp had a viscosity of 30 cp (D.P. 810), a kappa number of 7.0, a copper number of 0.3, and a hemicellulose content of 13.0%.

EXAMPLE 6

Southern pine unbleached alkaline Kraft pulp was treated in accordance with Example 2 except that the sodium hydroxide was replaced with unoxidized Kraft white liquor as described in Example 5.

The resulting pulp had a viscosity of 42 cp (D.P. of 931), a kappa number of 6.3, and a copper number of 0.3. The hemicellulose content of the pulp was 13.0%.

EXAMPLE 7

Southern pine unbleached alkaline Kraft pulp of Example 5 was subjected to the DED bleaching sequence of Example 3.

The resulting pulp exhibited a viscosity of about 25 cp (D.P. of 744), a TAPPI brightness of about 87.6, a copper number of 0.9, and a hemicellulose content of 13.0%.

EXAMPLE 8

This example illustrates the reduction of the degree of polymerization without a significant increase in hemicellulose content or copper number in a medium consistency reactor.

Southern pine unbleached alkaline Kraft pulp with a kappa number 26.4 and a viscosity of 456 cp (D.P. of 1721) was placed in a pulp basket of a bench scale medium consistency oxygen reactor. One-half of the amount of water necessary to provide a 6 percent consistency was poured into the top of the basket along with sodium hydroxide in an amount equivalent to 100 pounds per ton of pulp. The remaining half of the dilution water necessary to provide a 6 percent consistency was poured onto the top of the basket and included hydrogen peroxide in an amount equivalent to 20 pounds per ton of pulp. The top of the reactor was closed and oxygen gas was introduced in an

amount equivalent to 60 psig. The temperature of the reactor was increased to 125° C over five to eight minutes using a heated jacket and heating the recirculating fluid. The temperature was held at 125° C for one hour. The pressure was then released and the heating removed and the liquor dumped. The basket with the treated pulp was removed and washed with deionized water. The procedure was then repeated. Upon completion of the second treatment, the pulp was processed in accordance with the DED sequence of Example 7.

The resulting pulp had a viscosity of about 25 cp (D.P. of 744), a TAPPI brightness of 89.5, a copper number of 0.6, and a ΔR of essentially zero. The hemicellulose content of the treated pulp was 13.0%.

COMPARATIVE EXAMPLE 9

This example reproduces the process of Example 3 with the exception that rather than the final D stage in Example 3, a final acid stage is provided as described below. Pulp from the E stage of Example 3 was diluted to 25 percent consistency using deionized water. The pH of the pulp was changed to 1.0 by adding sulfuric acid. The resulting pulp was then cooked for 45 minutes at 70°C. The pulp was then removed from the bag and washed with deionized water.

The treated pulp exhibited a viscosity of 24 cp (D.P. of 729), a TAPPI brightness of 84.3, a copper number of 1.4, a ΔR of about -0.3.

In this comparative example, the copper number of the pulp increases from 0.5 to 1.4 due to the bleaching process. In comparison, the copper number of the pulp treated by the bleaching sequence of Example 3 exhibited an ending copper number of 0.6.

COMPARATIVE EXAMPLE 10

This example illustrates the effects of using a hypochlorite stage as the final stage in Example 3.

The pulp of Example 3 after the E stage was diluted to 25 percent consistency with water containing sodium hypochlorite at a loading equivalent to 15 pounds per ton of pulp. Sufficient caustic was introduced to provide a final pH of 8. The pulp was then heated for 2 hours at 55°C. The resulting pulp was removed from the bag and washed with deionized water. The resulting pulp exhibited a viscosity of about 26 cp

(D.P. of 758), a TAPPI brightness of 90.0, a copper number of 1.6 and a ΔR of about 3.9.

In this comparative example, the copper number increased from 0.5 to 1.6 due to the bleaching sequence described above. In contrast, the bleached pulp of Example 3 exhibited a copper number of 0.6.

EXAMPLE 11

DRY JET WET-SPUN FIBERS

The pulp of Example 4 was used to prepare a dope by dissolving the treated pulp in NMMO. The dope was spun into fibers by a dry jet wet-process as described in U.S. Patent 5,417,909, which is incorporated herein by reference. The dry jet wet-spinning procedure was conducted by TITK. The properties of the fibers prepared by the dry jet/wet process are summarized in Table 1 below.

TABLE 1

FIBER PROPERTIES

fiber fineness (dtex)	1.63	1.25
cellulose content (%)	11.3	11.3
hemicellulose content (%)	13	13
tenacity dry (cN/tex)	40.9	42.0
tenacity wet (cN/tex)	31.0	32.5
tenacity ratio (%)	75.8	77.4
elongation dry @ break (%)	12.9	12.7
elongation wet @ break (%)	13.2	12.7
loop tenacity (cN/tex)	8.7	10.4
loop tenacity ratio (%)	21.3	24.8
initial modulus (cN/tex)	787	766
wet modulus (cN/tex)	191	213
fiber DP	462	462